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Infant Homicide and Availability of Reproductive and Mental Health Services: A Comparison of Democratic and Republican States

Abstract

Many infanticide researchers have focused on individual-level factors. This study considered community factors that may influence rates of infanticide, such the influence of political climate on the availability of reproductive and mental health services. Rates of infanticide and reproductive and mental health centers were compared for Democratic and Republican states. Results showed that, compared with Republican states, Democratic states had higher rates of abortion clinics and mental health and substance abuse treatment centers, along with lower rates of infanticide. This study highlights the need for inferential research in this area so that public and mental health officials can implement prevention strategies.

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INFANT HOMICIDE AND AVAILABILITY OF REPRODUCTIVE AND MENTAL
HEALTH SERVICES: A COMPARISON OF DEMOCRATIC AND REPUBLICAN
STATES

A THESIS

SUBMITTED TO THE FACULTY

OF

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LAUREN LEANNE BEST

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APPROVED: Genevieve L. Y. Arnaut, Psy.D., Ph.D.

Abstract

Many infanticide researchers have focused on individual-level factors. This study considered community factors that may influence rates of infanticide, such the influence of political climate on the availability of reproductive and mental health services. Rates of infanticide and reproductive and mental health centers were compared for Democratic and Republican states. Results showed that, compared with Republican states, Democratic states had higher rates of abortion clinics and mental health and substance abuse treatment centers, along with lower rates of infanticide. This study highlights the need for inferential research in this area so that public and mental health officials can implement prevention strategies.

Keywords: infanticide, social policy, politics, abortion, contraception, mental health

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Introduction

In 2011, parents were the perpetrators in 78.3% of all child fatalities in the United States. Further, 42.4% of all child fatalities due to abuse or neglect involved infants (children younger than 1 year of age; United States Department of Health and Human Services, 2012). Prior researchers have found that infants were at greater risk of becoming a victim of homicide than were children in any other age group (d'Orban, 1979). Therefore, assuming this trend has continued, when considering infant fatalities in 2011 it is likely that most of the perpetrators were parents of the victims. Homicide of an infant by a parent is referred to as *infanticide*.

Infanticide research has been accumulating since Resnick's (1970) landmark study was published over 40 years ago. However, most researchers have only focused on offender and victim characteristics. Although individual-level factors are important to consider, also worth examining are community factors, such as local availability of health care services. Further, many researchers have speculated that increased access to medical services, including abortion, may help prevent infanticide (Resnick, 1970; Schwartz & Isser, 2007). However, the availability of reproductive health centers has been shown to vary widely across states, with citizens in some states enacting social policies to restrict access (Camobreco & Barnello, 2008; Guttmacher Institute, 2013). Researchers have also found that attitudes about social policies were related to political party identification (Adams, 1997; Carmines & Woods, 2002). Thus, when researching infanticide, it appears that community factors may be important to consider because they may exert influence over individual-level factors.

The purpose of this study was to examine whether differences exist between states with different political climates (i.e., Democratic versus Republican) concerning the rate of reproductive health centers, mental health centers, and infanticide. The incorporation of community factors in infanticide research would allow mental and public health officials to target macro-level variables when enacting prevention strategies.

Review of the Literature

In the following literature review, I first examine infanticide offender characteristics and situational factors. Second, I discuss various infanticide classification systems that have been proposed by researchers. Third, I highlight infanticide prevention strategies that have been discussed in the literature, with an emphasis on reproductive and mental health services. Finally, I examine particular social policies that may create obstacles for enacting the proposed infanticide prevention strategies.

Offender Characteristics

Researchers have shown that several characteristics are common among infanticidal women. For instance, Smithey (1998) found that the victim-perpetrator relationship is associated with the infant's age. Mothers more often kill younger infants than older infants (Smithey, 1998), and they are particularly likely to commit a form of infanticide known as *neonaticide* (Resnick, 1970). Neonaticide refers to the homicide of an infant who is younger than 24 hours old by a parent (Resnick, 1970). Additionally, researchers have shown that the majority of neonaticide perpetrators are mothers of the victim (Crittendon & Craig, 1990; Herman-Giddens, Smith, Mittal, Carlson, & Butts, 2003; Resnick, 1970; Schwartz & Isser, 2007). In a landmark study on neonaticide, Philip J. Resnick (1970) analyzed 37 neonaticides found in 168 international¹ case reports written from 1751 to 1968. He found that fathers were the perpetrators in only two out of 37 cases (Resnick, 1970). Likewise, Crittenden and Craig (1990) used a sample of all recorded child homicides in Dade County, Florida from 1956 to 1986 and found that

¹ Unless otherwise specified, the research studies mentioned in this review were conducted in the United States.

mothers were the offenders in 86% of neonaticides.

It is unclear whether homicide perpetrators of older infants are more likely to be fathers than mothers because research has shown mixed results. Some researchers have shown that the perpetrator in homicides of children less than 1 year old is typically the mother (Crittenden & Craig, 1990; Putkonen et al., 2011; Smithey, 1998), whereas other researchers have shown that the perpetrator in such cases is typically the father (Jason, Gilliland, & Tyler, 1983; Schwartz & Isser, 2007). Smithey (1998) examined Uniform Crime Reports from 1979 through 1995 and found that mothers were most likely to kill infants from birth to 3.75 months, whereas fathers were most likely to kill infants aged 4.00 to 9.75 months. Some researchers have suggested that young infants are more often killed by mothers than by fathers because mothers spend more time with neonates and young infants than fathers do (Haapasalo & Petäjä, 1999). Therefore, it appears that the victim-perpetrator relationship may be a function of the victim's age.

Research shows that the younger the perpetrator is, the more likely it is that he or she will commit infanticide (Overpeck, Brenner, Trumble, Trifiletti, & Berendes, 1998). Overpeck et al. (1998) compiled risk factors for infanticide by analyzing 2776 infanticides that occurred from 1983 to 1991 in the United States. They found that a maternal age of less than 19 years was among the strongest predictive factors for infanticide. In a study by Stone, Steinmeyer, Dreher, and Krischer (2005) that included two forensic samples, 45% of the infanticidal and neonaticidal mothers in one sample were younger than 21 years of age, and 40% of the infanticidal and neonaticidal mothers in another sample were younger than 26. Also, research has indicated that as the average age of the victim decreases, the average age of the perpetrator decreases (Jason et al.,

1983). Likewise, Mendlowicz, Rapaport, Mecler, Golshan, and Moraes (1998) analyzed neonaticides that occurred in Brazil from 1900 to 1995 and found that 77% of the perpetrators were younger than 24 years of age.

Researchers have shown that most infanticide perpetrators are unmarried. Stone et al. (2005) found that 90% of perpetrators in their sample were single. Similarly, Resnick (1970) found that only 19% of neonaticidal women were married. In another study, the risk of committing infanticide for nonmarried women was 4 times the risk for married women (Overpeck et al., 1998). It has also been shown that neonaticidal women often lived with their parents during the time of the offense, likely because they were young. Shelton, Corey, Donaldson, and Dennison (2011) analyzed detailed case records and found that 96% of neonaticidal women lived with someone else at the time of the offense and that 50% were living with their parents. In a study by Shelton, Muirhead, and Canning (2010) that included 44 women convicted of killing neonates, 73.3% of the sample subjects stated that other members of the household were unknowingly in close proximity to the mother during the offense. It appears that social support is a key difference between neonaticidal women and infanticidal women.

Researchers have found that when women have more than one child, the risk of infanticide increases. For example, Overpeck et al. (1998) found that for infants who were second-born or subsequent children of a mother younger than 17 years of age, the risk of being an infanticide victim was 10 times the risk for a first-born child of a mother older than 25. Furthermore, 58.3% of mothers had one or more biological children other than the victim (Overpeck et al., 1998). Also, research has shown that neonaticidal women are often nulliparous. Mendlowicz et al. (1998) found that 82.4% of neonaticidal

women did not have other children whereas 39.6% of women in the general population did. In another study, researchers found that only 27% of neonaticidal women had children other than the victim (Shelton et al., 2010).

In sum, researchers have consistently found that mothers were more likely to kill younger infants than older infants (Smithey, 1998) and that the majority of female offenders were young (Mendlowicz et al., 1998; Jason et al., 1983; Overpeck et al., 1998; Stone et al., 2005) and unmarried (Overpeck, 1998; Resnick, 1970; Stone et al., 2005). However, researchers have found differences between infanticide offenders and neonaticide offenders regarding the number of subsequent births (Mendlowicz et al., 1998; Overpeck et al., 1998; Shelton et al., 2010). Finally, some researchers have found that fathers are more likely to kill older infants, but the results have been inconsistent (Crittenden & Craig, 1990; Jason, Gilliland, & Tyler, 1983; Putkonen et al., 2011; Schwartz & Isser, 2007; Smithey, 1998).

Situational Factors

Certain situational factors have been shown to be associated with infanticide cases. For example, researchers have shown that postpartum psychological disorders are associated with infanticide (Schwartz & Isser, 2007; Stone et al., 2005). In a study by Stone et al. (2005), postpartum psychosis was the most common psychological diagnosis for infanticidal women. Women with postpartum psychosis may experience depression, emotional lability, social isolation, delusions, and/or hallucinations that instruct the mother to kill or harm her child (Meyer and Oberman, 2001; Schwartz & Isser, 2007). A less severe postpartum disorder that has been mentioned in infanticide literature is postpartum depression (Schwartz & Isser, 2007). Mothers suffering from postpartum

depression may show symptoms of appetite loss, insomnia or hypersomnia, unhappiness, fatigue, guilt, suicidal ideation, and loss of interest in enjoyable activities (Schwartz & Isser, 2007). According to Schwartz and Isser (2007), mothers who are biologically predisposed to developing clinical depression may find that the onset of symptoms occur after social stressors such as financial hardship, social isolation and interpersonal problems. Mental illness appears to be a stronger factor in infanticide cases than in neonaticide cases (Schwartz & Isser, 2007). In Resnick's (2007) study, only 17% of the women in the neonaticidal group had psychotic symptoms. Similarly, Stone et al. (2005) found that the most common type of infant homicide by mothers with no Axis I diagnosis was neonaticide.

Along with mental illness, researchers have also considered the impact of parental substance abuse on infanticide (Krischer et al., 2007). According to the U.S. Department of Health and Human Services (2012), 18.5% of children who died because of abuse or neglect in 2011 had a caretaker who abused drugs or alcohol. In particular, cases of infanticide by battering have been shown to be associated with mothers' substance use or dependence (Krischer et al., 2007). Krischer et al. (2007) found that substance abuse or dependence of infanticidal mothers was associated with low IQ, schizophrenia, and poverty. Researchers have shown that substance abuse or dependence has been less prominent among neonaticidal mothers than among infanticidal mothers (Krischer et al., 2007; Shelton et al., 2011). For instance, in Shelton et al.'s (2011) study, 59% of neonaticidal mothers tested negative for any type of therapeutic or recreational drug. Only three offenders tested positive for cocaine or cocaine metabolites and only two offenders tested positive for methamphetamine (Shelton et al., 2011).

Other researchers have considered the roles of socioeconomic status (SES) and education levels. Stone et al. (2005) found that 81% of mothers in a forensic sample who had been convicted of killing their infants were of low SES. Using data from 16 states, Beyer, Mack, and Shelton (2008) found that mothers who killed their neonates were of low to middle SES. Low SES has also been associated with low education levels (Levine & Nidiffer, 1996), which is another characteristic common in infanticide perpetrators. Overpeck et al. (1998) found that mothers with less than 12 years of education were 8 times more likely to commit infanticide than were mothers with 16 years of education. Similarly, Mendlowicz et al. (1998) found that 50% of the neonaticidal sample was illiterate as compared with 28.9% of the control group. A study conducted in Japan has also shown that neonaticidal mothers had lower levels of education than the general public (Sakuta & Saito, 1981). Although many studies have included education levels, few researchers have examined the IQ levels of infanticidal women. Spinelli (2003) found that three neonaticidal women with available IQ test information had IQs in the below average range. The combination of low SES, limited education, and low IQ suggests that infanticide offenders may feel powerless to take positive directions in their lives.

In a study by Herman-Giddens et al. (2003), the majority of mothers convicted of committing infanticide reported that they had received late prenatal care or no prenatal care. Researchers found that only 5.9% of the sample had received prenatal care before they were 5 months pregnant. In the same study, 26.5% of the sample had not received prenatal care (Herman-Giddens et al., 2003). Similarly, Overpeck et al. (1998) found that 46.1% of infanticide offenders in their study had not received any prenatal care, and

16.4% had received prenatal care between their seventh and ninth month of pregnancy. Only 4.4% of infanticidal mothers in Overpeck et al.'s study had received prenatal care during the first two months of their pregnancy.

Researchers have also studied the association between infanticide rates and geographical region. Jason et al. (1983) analyzed Uniform Crime Reports for the years 1976 to 1979 and found that the infanticide rate was the highest in the Midwest region of the United States, whereas the neonaticide rate was highest in the Northeast region. The South had the lowest rate of infanticide, and the Midwest and the West had the lowest rates of neonaticide. Jason et al. also found that 15% of infanticides and 31% of neonaticides occurred in nonmetropolitan areas. The researchers concluded that neonaticide was the only type of filicide included in this study that had a high proportion of rural incidents.

Pervasive denial and concealment of pregnancy are situational factors that have been shown to be unique to neonaticide cases (Beyer et al., 2008; Shelton et al., 2011; Spinelli, 2001; Vellut, Cook, & Tursz, 2012). Vellut et al. (2012) studied a sample of 22 neonaticide perpetrators from three different regions in France. They found that denial of pregnancy was mentioned in 68% of the case files. Similarly, Spinelli (2001) reviewed court-referred psychiatric evaluations of 16 neonaticidal women and found that 12 women reported dissociative hallucinations during labor and 14 reported that they had experienced brief amnesia. However, Spinelli noted that malingering should be considered when interpreting the results. Shelton et al. (2011) found that 96% of their sample subjects concealed their pregnancy from others, and particularly from their parents. Beyer et al. (2008) stated that all of the offenders in their sample were

cognitively aware that they were pregnant. They added that many of the offenders denied the pregnancy to friends and family members, resulting in denial by the community surrounding the offender.

Many researchers have suggested that shame was the motive for denial or concealment of pregnancy among the perpetrators in their samples (Beyer et al., 2008; Resnick, 1970; Shelton et al., 2011). Beyer et al. (2008) stated that many of the offenders in their sample were from middle to high SES backgrounds and that illegitimate pregnancies were often scorned in these communities. The young women in their sample did not want their parents to know that they were engaging in premarital sex (Beyer et al. 2008). Resnick (1970) found that extramarital paternity was the most common reason for neonaticide among married women. Furthermore, Shelton et al. (2011) commented that the married women in their sample did not want to be perceived as acting irresponsibly by becoming pregnant when they already had several children for whom they could not provide sufficient care.

In sum, mental illness (Jason et al., 1983; Mendlowicz et al., 1998; Overpeck et al., 1998; Stone et al., 2005) and substance abuse (Krischer et al., 2007; Shelton et al., 2011) have been more common among infanticide offenders than among neonaticide offenders, whereas lack of prenatal care has been common among infanticide and neonaticide offenders (Herman-Giddens et al., 2003; Overpeck et al., 1998). Further, only neonaticide perpetrators tended to deny or conceal their pregnancies (Beyer et al., 2008; Shelton et al., 2011; Spinelli, 2001; Vellut et al., 2012), and neonaticides and infanticides have been shown to vary by geographical region (Jason et al., 1983).

Filicide Classification Systems

Several researchers have developed classification systems by using their research findings to classify filicide cases according to the perpetrator's alleged motive (Bourget & Bradford, 1990; d'Orban, 1979; Resnick, 1969; Wilczynski, 1997). *Filicide* refers to the killing of a child by a parent. Although the classification systems reviewed here have been developed using research samples of older children, several researchers have created categories specifically for neonaticide victims (Bourget & Bradford, 1990; d'Orban, 1979) or for unwanted children (Resnick, 1969; Scott, 1973).

Resnick (1969) analyzed 131 filicides from 155 international case reports to create a classification system. To focus exclusively on filicides, he excluded 24 cases of neonaticide from his study. However, he included homicides of infants older than 24 hours. He labeled 64 cases as *altruistic filicides*, 28 as *acutely psychotic filicides*, 18 as *unwanted child filicides*, 16 as *accidental filicides*, and five as *spouse revenge filicides*. The altruistic filicide category had two subgroups: *filicide associated with suicide* and *filicide to relieve suffering*. Included in the filicide associated with suicide subgroup were four cases wherein the parents had believed that the only solution to poverty was to kill their family members. Many of the acutely psychotic filicides included perpetrators who were under the influence of delirium, epilepsy, or hallucinations. Resnick found that unwanted child filicides involved extramarital paternity or financial struggles and that victims of accidental filicides were usually battered children.

Unlike Resnick (1969), Scott (1973) opted to avoid classifying cases by motive, stating that when perpetrators kill impulsively, as they often do, their motives may not be

determined. Also, Scott's sample included adult victims in addition to child victims, and he focused on paternal perpetrators. Scott analyzed cases involving 49 victims who had been killed by their fathers between the years of 1957 and 1962 in England. The sample included three neonates, 25 infants, 10 toddlers, eight schoolchildren, and six adults.

Scott developed the following classification system: *elimination of an unwanted child* (10%), *mercy killing* (4%), *mental illness* (29%), *stimulus not in victim* (14%), and *victim constitutes stimulus* (31%). The mental illness category had four subgroups: *organic*, *toxoid*, *epileptic* (8%), *paranoid* (6%), *manic-depressive* (8%), and *uncertain* (6%). The *stimulus not in victim* category referred to displacement of anger onto the victim, and the *victim constitutes stimulus* category referred to battered child cases. Finally, Scott suggested that although his study focused on paternal perpetrators, the classification system seems to be equally applicable to maternal perpetrators.

d'Orban (1979) reviewed 89 cases of filicide that occurred from 1970 to 1975 and identified six categories: *battering mothers* (36 subjects), *mentally ill mothers* (24 subjects), *neonaticides* (11 subjects), *retaliating women* (nine subjects), *unwanted children* (eight subjects), and *mercy killing* (one subject). The percentage of victims who were younger than 1 year of age included 42% from the battering category, 58% from the mentally ill category, 100% from the neonaticides category, 33% from the retaliating category, 50% from the unwanted category, and 100% from the mercy killing category. In 91% of neonaticides and 27% of all cases the child was "illegitimate" (p. 570).

Bourget and Bradford (1990) examined data for 13 subjects in Canada who had been referred for a pretrial examination after each had been charged with killing his or her child. Bourget and Bradford modeled their classification system after existing

research and results from their own study. Their classification system included *pathological filicide* (three subjects), *accidental filicide* (six subjects), *retaliating filicide* (one subject), *neonaticide* (one subject), and *paternal filicide* (two subjects). The pathological filicide category had two subgroups: *altruistic* (one subject) and *extended suicide* (two subjects). The accidental filicide category also had two subgroups: *battered child syndrome* (five subjects) and *others* (one subject). Bourget and Bradford found that three cases involved children who were the products of unwanted pregnancies. In addition, severe psychosocial stress was present in 61.5% of filicide cases included in the study.

These classification systems have several similarities and differences. For instance, all of the researchers included categories for unwanted children or for neonaticides. The majority of the sample subjects in each study were categorized under either the mental illness category or the battered child category. However, Scott (1973) did not include a retaliation classification, but Resnick (1969), d'Orban (1979), and Bourget and Bradford (1990) did. Also, unlike the other four authors, Scott did not classify homicides according to motive.

Infanticide Prevention Strategies

Several infanticide researchers have speculated about prevention strategies that could reduce the infant homicide rate in the United States and in other countries. In their book on filicide, Schwartz and Isser (2007) stated that comprehensive sex education rather than abstinence-only sex education should be taught in schools. Similarly, Friedman and Resnick (2009) suggested that sex education and open communication could decrease unwanted pregnancies, which could prevent neonaticides. They also

recommended that teenage girls should be able to speak with their physicians about sex without their parents present (Friedman & Resnick, 2009). In their research study, Crittenden and Craig (1990) suggested providing and broadcasting easy access to medical services. Schwartz and Isser also stressed the importance of prenatal care, indicating that this could assist women in activating social supports. Lastly, Meyer and Oberman (2001) discussed how timely detection and treatment of mental health problems in parents could prevent homicides of children.

In addition to comprehensive sex education programs, researchers have suggested increased access to abortion services. Jason et al. (1983) found that neonaticide was the only type of filicide with a high proportion of rural incidents. Jason et al. speculated that abortion might have been unavailable or “socially censored” (p. 196) in rural areas with high rates of neonaticide. In Resnick’s (1970) early research, he commented that, although it would be “far from ideal” (p. 1419) a liberalization of abortion laws could help reduce the incidence of neonaticide. Resnick supported his assertion with his research showing that many neonaticide victims were unwanted children. Also supporting his assertion is a study by Lester (1992). Lester investigated the relationship between liberalized abortion laws and neonaticides before and after the case of *Roe v. Wade* (1973) in which the United States Supreme Court decided that a woman’s right to an abortion was protected under the 14th Amendment. Comparing statistics from 1963 to 1972 with statistics from 1974 to 1983, Lester found that neonaticides decreased after *Roe v. Wade*. Further, Grossman and Jacobowitz (1981) conducted a regression analysis to examine the impact of public policies on infant mortality rates, and they found that increased abortion was the most important factor in reductions of neonaticide rates.

Other researchers have considered the role of poverty in addition to restricted access to abortion. Mendlowicz et al. (1998) found that only two out of 53 neonaticidal women had had induced abortions compared to 14 out of 54 women in a control group. Mendlowicz et al. stated that in Brazil abortions were illegal, yet common. The low rate of abortion among the neonaticidal women led the researchers to infer that the neonaticidal women were “unable to mobilize psychological, economical, and social resources necessary for an abortion” (p. 217). Schwartz and Isser (2007) have also stressed the importance of affordable abortions. They stated that poor pregnant women had received the right to a private abortion as a result of *Roe v. Wade* (1973), but that they had received few other resources due to changes in welfare laws.

The changes in welfare laws mentioned by Schwartz and Isser (2007) include the implementation of the Hyde Amendment. The Hyde Amendment was enacted to prevent states from using federal funds (e.g., Medicare and Medicaid) to pay for abortions except in cases in which either the mother’s life is endangered or she was a victim of rape or incest (Schwartz & Isser, 2007). Researchers at the Guttmacher Institute (2013) found that 32 states² and the District of Columbia chose to follow this standard. In addition, two states (Mississippi and Virginia) opted to fund abortions if the fetus is impaired, and three states (Indiana, Wisconsin, and Utah) opted to fund abortions if giving birth would cause permanent damage to the woman’s physical health. Researchers found that South Dakota chose to provide abortions only if the woman’s life was endangered, which is in

² Alabama, Arkansas, Colorado, Delaware, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Michigan, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Virginia, Wisconsin, and Wyoming

violation of the Hyde Amendment (Guttmacher Institute, 2013). In addition, 17 states³ opted to provide funds for most or all abortions that are medically necessary; four states⁴ chose to do so voluntarily and 13 states⁵ would do so only if they were court-ordered (Guttmacher Institute, 2013).

In sum, many infanticide researchers have concluded their research studies with a discussion about how infanticide may be prevented. Focal points have included the expansion of comprehensive sex education programs (Friedman & Resnick, 2009; Schwartz & Isser, 2007), increased access to medical services (Crittenden & Craig, 1990; Friedman & Resnick, 2009; Meyer & Oberman, 2001; Schwartz & Isser, 2007), and increased availability of abortion services (Resnick, 1970; Schwartz & Isser, 2007). However, attempts at implementing the suggested prevention strategies have caused moral controversy in the political arena (Schwartz & Isser, 2007).

Social Policy Barriers

Several social policies in the United States have created obstacles for implementing the proposed prevention strategies. For instance, one suggestion that researchers have made regarding infanticide prevention is increased access to abortion (Resnick, 1970; Schwartz & Isser, 2007). However, research has indicated that abortion access has become increasingly restrictive (Camobreco & Barnello, 2008). Camobreco and Barnello (2008) examined abortion policies that were enacted in 1983, 1993, and 2003 and found that the mean number of state-level abortion restrictions increased from

³ Alaska, Arizona, California, Connecticut, Hawaii, Illinois, Maryland, Massachusetts, Minnesota, Montana, New Jersey, New Mexico, New York, Oregon, Vermont, Washington, and West Virginia

⁴ Hawaii, Maryland, New York, and Washington

⁵ Alaska, Arizona, California, Connecticut, Illinois, Massachusetts, Minnesota, Montana, New Jersey, New Mexico, Vermont, and West Virginia

3.0 in 1983 to over 6.5 in 2003. In addition, Camobreco and Barnello found that in 2003 the general public's attitude toward abortion was a significant predictor of state-level abortion restrictions.

At an individual level, individuals' abortion attitudes have been shown to be associated with an individual's political party affiliation (Adams, 1997; Carmines & Woods, 2002). Carmines and Woods (2002) found that from 1972 to 2000, Democrats became increasingly proabortion, whereas Republicans became increasingly antiabortion. Adams (1997) found similar results among politicians. He investigated the evolution of political party members' attitudes toward abortion by examining 176 House and Senate roll calls taken from 1973 to 1994. Adams found that, in both the House and the Senate, Democratic politicians became increasingly proabortion and Republican politicians became increasingly antiabortion.

In addition to state-level abortion restrictions, another barrier to abortion access is the monetary cost (Schwartz & Isser, 2007). Frost, Henshaw, and Sonfield (2010) found that more than 4 million women below the federal poverty level needed publicly funded contraceptive services and supplies in 2008. Public funding for contraceptive services and supplies has historically received support under Title X (Frost et al., 2010), but support for public funding and welfare such as Title X has been shown to be associated with political party affiliation (Berkman & O'Connor, 1993; Kam & Nam, 2008; Schneider & Jacoby, 2005). Berkman and O'Connor (1993) found that states with liberal policies were significantly more likely than were states with conservative policies to provide funding for abortions. Along the same lines, Schneider and Jacoby (2005) conducted a regression analysis to examine predictors of support for general welfare

spending and found that as Republican Party identification increased, support for welfare spending decreased. Kam and Nam (2008) found similar results in their study on general welfare support. They analyzed National Election Studies data from 1984 to 2000 and found that Democrats and liberals were more likely to support welfare spending than were Republicans and conservatives.

Another suggestion that researchers have made regarding infanticide prevention is the expansion of comprehensive sex education programs (Friedman & Resnick, 2009; Schwartz & Isser, 2007). Research findings from a study on sex education indicated that parents who identified as liberal were more likely to support comprehensive sex education than were parents who identified as conservative (Constantine, Jerman, & Huang, 2007). To examine the relationship between political party affiliation and support for comprehensive sex education, Constantine et al. (2007) conducted a random-digit-dial survey of 1,284 parents in California. Those who identified as liberal were less supportive of abstinence-only sex education than were those who identified as conservative.

In sum, state-level abortion policies have become stricter, and the restrictions appear to be influenced by the general public's attitude toward abortion (Camobreco & Barnello, 2008). Also, research has supported the assertion that individuals who identify as Republican are less likely to support abortion funding and policies allowing abortion (Adams, 1997; Carmines & Woods, 2002), welfare spending (Berkman & O'Connor, 1993; Kim & Nam, 2008; Schneider & Jacoby, 2005), and comprehensive sex education (Constantine et al., 2007) than are individuals who identify as Democrat.

Purpose of the Current Study

The purpose of this study was to examine whether differences exist between political climates in infanticide rates and access to reproductive and mental health services. My first hypothesis was that Democratic states would have higher rates of publicly funded contraception centers and mental health and substance abuse treatment centers than would Republican states. Second, I hypothesized that Democratic states would have lower rates of infanticide than would Republican states.

Method

Sampling Method

I obtained data from the Web-based Injury Statistics Query and Reporting System (WISQARS), a public online database that is managed by the Center for Disease Control and Prevention (Center for Disease Control and Prevention, 2011). WISQARS includes data on homicides, suicides, deaths of legal intervention, and deaths of undetermined events by combining information from law enforcement officials, medical examiners and coroners. Currently, infanticide counts for 16 states are publicly available in the database (Center for Disease Control and Prevention, 2011). However, to create two groups of states with similar population sizes, I omitted six states (Kentucky, Rhode Island, Utah, New Mexico, West Virginia, and Alaska). Thus, I used information for 10 states (Colorado, Georgia, Maryland, Massachusetts, New Jersey, North Carolina, Oklahoma, Oregon, South Carolina, and Wisconsin).

To compare conservative and liberal environments, I sorted the 10 states into two groups based on the political party affiliation of the presidential candidate who received the popular vote in each state during the 2004 election. Thus, the Republican group included five states: Colorado, Georgia, North Carolina, Oklahoma, and South Carolina. The Democratic group included five states: Maryland, Massachusetts, New Jersey, Oregon, and Wisconsin.

Procedure

I compared Republican and Democratic groups of states on seven factors: (a) average population size, (b) average median income, (c) infanticide rate, (d) rate of

abortion providers, (e) rate of publicly funded contraception centers, (f) rate of Medicaid-accepting substance abuse centers, and (g) rate of Medicaid-accepting mental health centers.

To determine whether the two groups were similar on average population and income, I obtained information from the United States Census Bureau (2009, 2010, 2011). Specifically, I compared the 10 states on average population size and average median household income from 2005 to 2010.

To measure infanticide counts for each state, I used WISQARS (Center for Disease Control and Prevention, 2011) to obtain counts of homicide victims who were younger than 1 year of age and whose parents were the perpetrators in the crime. Using this information, I recorded the total number of infanticides that occurred between 2005 and 2010. I then calculated infanticide rates per 600,000 people by using the infant homicide counts from WISQARS and the average population size for each state from 2005 to 2010 (U. S. Census Bureau, 2009, 2010).

To obtain information on reproductive and mental health services for each state, I accessed publicly available data on the number of publicly funded contraception clinics in 2006 (Guttmacher Institute, 2009). I compiled the number of abortion providers for each state from Jones and Kooistra (2011), who conducted a study on abortion trends by contacting abortion providers in each state. Using the Behavioral Health Treatment Services Locator from the Substance Abuse and Mental Health Services Administration (SAMHSA), I obtained the average number of substance abuse treatment centers that accepted Medicaid from 2005 to 2010 in each state. However, SAMHSA did not have information on mental health treatment centers for the years 2005 to 2010. As an

alternative, I counted the current number of mental health treatment centers in each state that accepts Medicaid as a form of payment. Using the average population size from 2005 to 2010 (U. S. Census Bureau, 2009, 2010), I computed rates of abortion clinics, publicly funded contraception clinics, mental health treatment centers, and substance abuse treatment centers per 600,000 people.

Results

Due to the small sample size, I could not conduct an inferential analysis for this study. Instead, I compared descriptive statistics for the two groups of states and examined the data for any trends. Table 1 displays the average population size from 2005 to 2010 in the Democratic and Republican states. As shown, the two groups had similar population sizes.

Table 1

Average Population Size From 2005 to 2010 in Democratic and Republican States

Democratic states	Average population size ^a	Republican states	Average population size ^a
Maryland	5,656,848	Colorado	4,878,912
Massachusetts	6,487,479	Georgia	9,530,646
New Jersey	8,718,450	North Carolina	9,123,260
Oregon	3,756,010	Oklahoma	3,637,529
Wisconsin	5,610,679	South Carolina	4,441,741
Mean	6,045,893	Mean	6,322,418

^aAdapted from “Annual Estimates of the Population for the United States and States, and for Puerto Rico: April 1, 2001 to July 1, 2009” by U. S. Census Bureau, 2009 and “Resident population data” by U.S. Census Bureau, 2010.

Although the two groups had similar population sizes, they had dissimilar income distributions, as shown in Table 2. The average median annual income was higher in the Democratic states than it was in the Republican states.

Table 2

Average Annual Median Income From 2005 to 2010 in Democratic and Republican States

Democratic states	Average median income ^a	Republican states	Average median income ^a
Maryland	67,197	Colorado	54,323
Massachusetts	61,830	Georgia	47,668
New Jersey	66,649	North Carolina	43,670
Oregon	47,176	Oklahoma	40,659
Wisconsin	49,594	South Carolina	42,264
Mean	58,489	Mean	45,717

^aAdapted from “Small Area Income & Poverty Estimates (SAIPE) Interactive Data Tool” by U. S. Census Bureau, 2011.

Table 3 presents data on the rate of health centers and infant homicides in the five Democratic states. The relationship between these variables did not appear to form a consistent pattern. For example, Oregon had the highest infant homicide rate and the second-highest number of abortion clinics. In contrast, Wisconsin had the second-highest infant homicide rate and the fewest number of abortion clinics.

Table 3

Rates of Health Centers and Infant Homicides per 600,000 People in Democratic States

State	Health Centers				Infant homicides ^d
	Abortion clinics ^a	Publicly funded contraception ^b	Medicaid-accepting mental health treatment ^c	Medicaid-accepting substance abuse treatment ^c	
Maryland	3.61	14.63	13.26	20.04	1.38
Massachusetts	3.79	13.04	16.00	19.89	0.74
New Jersey	5.16	6.74	11.01	11.84	1.24
Oregon	4.63	21.73	17.89	20.77	2.88
Wisconsin	0.96	13.05	20.21	24.60	2.78

^aAdapted from “Abortion Incidence and Access to Services in the United States” by R. K. Jones and K. Kooistra, 2011, *Perspectives on Sexual and Reproductive Health*, 41-50.

^bAdapted from “Contraceptive Needs and Services, 2006” by Guttmacher Institute, 2009.

^cAdapted from the “Behavioral Health Treatment Services Locator” by the Substance Abuse & Mental Health Services Administration (SAMHSA), n.d.

^dAdapted from the “Web-based Injury Statistics Query and Reporting System (WISQARS)” by the Center for Disease Control and Prevention, National Center for Injury Prevention and Control, 2011.

Table 4 presents data on the rate of health centers and infant homicides for the five Republican states. As for the Democratic states, the relationship between these variables did not appear to form a consistent pattern. For example, South Carolina had the fewest number of abortion clinics and the second-lowest rate of infant homicides. On the other hand, North Carolina had the second-highest number of abortion clinics and the second-highest rate of infant homicides. The intragroup data patterns were inconsistent, suggesting that the rate of health centers and the rate of infant homicides were not related.

Table 4

Rates of Health Centers and Infant Homicides per 600,000 People in Republican States

State	Health Centers				Infant homicides ^d
	Abortion clinics ^a	Publicly funded contraception ^b	Medicaid-accepting mental health treatment ^c	Medicaid-accepting substance abuse treatment ^c	
Colorado	5.17	19.07	15.50	11.56	3.32
Georgia	2.02	19.65	9.57	10.26	0.82
N. Carolina	2.04	11.9	7.17	14.00	3.62
Oklahoma	0.99	26.57	15.84	9.24	4.13
S. Carolina	0.81	19.05	9.73	8.11	2.84

^aAdapted from “Abortion Incidence and Access to Services in the United States” by R. K. Jones and K. Kooistra, 2011, *Perspectives on Sexual and Reproductive Health*, 41-50.

^bAdapted from “Contraceptive Needs and Services, 2006” by Guttmacher Institute, 2009.

^cAdapted from the “Behavioral Health Treatment Services Locator” by the Substance Abuse & Mental Health Services Administration (SAMHSA), n.d.

^dAdapted from the “Web-based Injury Statistics Query and Reporting System (WISQARS)” by the Center for Disease Control and Prevention, National Center for Injury Prevention and Control, 2011.

Table 5 presents a comparison of Democratic and Republican states on the rate of health centers and infant homicides. The Democratic group had more abortion clinics, Medicaid-accepting mental health treatment clinics, and Medicaid-accepting substance abuse treatment clinics than did the Republican group. Also, the Democratic group had a lower infant homicide rate than did the Republican group. However, the Democratic group had fewer publicly funded contraception clinics relative to the Republican group. Thus, the intergroup data trends suggest that political party affiliation may have been related to the rate of health centers and infant homicides.

Table 5

Rates of Health Centers and Infant Homicides per 600,000 People in Democratic and Republican States

Variable	Democratic		Republican	
	Mean	SD	Mean	SD
Abortion clinics ^a	3.63	1.62	2.20	1.75
Publicly funded contraception centers ^b	13.84	5.35	19.25	5.19
Medicaid-accepting mental health treatment centers ^c	15.67	3.65	11.56	3.89
Medicaid-accepting substance abuse treatment centers ^c	19.43	4.66	10.63	2.27
Infant homicide ^d	1.80	0.97	2.95	1.28

^aAdapted from “Abortion Incidence and Access to Services in the United States” by R. K. Jones and K. Kooistra, 2011, *Perspectives on Sexual and Reproductive Health*, 41-50.

^bAdapted from “Contraceptive Needs and Services, 2006” by Guttmacher Institute, 2009.

^cAdapted from the “Behavioral Health Treatment Services Locator” by the Substance Abuse & Mental Health Services Administration (SAMHSA), n.d.

^dAdapted from the “Web-based Injury Statistics Query and Reporting System (WISQARS)” by the Center for Disease Control and Prevention, National Center for Injury Prevention and Control, 2011.

Discussion

The sample size for this study was small. Therefore, instead of conducting inferential analyses, I compared descriptive statistics for the two groups of states and examined the data for any trends. My first hypothesis was that, on average, Republican states would have lower rates of abortion clinics, Medicaid-accepting mental health treatment centers, Medicaid-accepting substance abuse treatment centers, and publicly funded contraception centers than would Democratic states. This hypothesis was partially supported: The Republican states had a lower rate of abortion clinics, Medicaid-accepting mental health treatment centers, and Medicaid-accepting substance abuse treatment centers than did the Democratic states. However, the average rate of publicly funded contraception centers was lower in Democratic states than in Republican states.

These results are similar to past research findings. For example, Adams (1997) and Carmines and Woods (2002) found that abortion attitudes were associated with an individual's political party affiliation. They also found that, from 1973 to 2000, Republicans became increasingly antiabortion, whereas Democrats became increasingly proabortion. Additionally, the finding that the number of Medicaid-accepting treatment centers differed between the two groups of states is partially supported by past research findings on welfare spending. Schneider and Jacoby (2005) found that support for general welfare spending decreased as Republican Party support increased. In addition, Kam and Nam (2008) found that Democrats and liberals were more likely to support welfare spending than were Republicans and conservatives.

However, the finding that the Democratic states had a lower rate of publicly funded contraception centers is contrary to past research showing that Democrats were in favor of increased welfare spending (Kam & Nam, 2008; Schneider & Jacoby, 2005). One possible reason for this inconsistency is a higher need for publicly funded contraception centers in Republican states than in Democratic states. In support of this possibility is a study by Landry, Darroch, Singh, and Higgins (2003). They measured the prevalence of teenage pregnancies, births, and abortions in different regions of the United States and found that teenage pregnancies and births were higher in the South than in the Midwest, Northeast, and West. In the current study, four of the five Republican states were located in the South. Therefore, the higher number of publicly funded contraception centers in Republican states may reflect increased need for services.

The finding that differences exist between Republican and Democratic states concerning the availability of abortion services and Medicaid-accepting treatment centers implies that political party identification may have influenced social policies (e.g., abortion restrictions and limits on welfare spending), which in turn impacted access to reproductive and mental health treatment centers. Another possibility is that the income level of the states influenced the availability of abortion services and Medicaid-accepting treatment centers, given that the median income in Republican states was lower than that in Democratic states. Inferential research is needed to more clearly establish a relationship between political party identification and access to health care.

My second hypothesis was that the Republican states would have a higher infant homicide rate than that of the Democratic states. The hypothesis was supported: The average infant homicide rate in the Republican states (2.95) was higher than that of the

Democratic states (1.80). At the time of this study, there was no prior research on the relationship between infant homicide and political party affiliation, so I am unable to make comparisons between this study and prior research. In addition, it is unknown whether the difference between the two groups is statistically significant because I could not conduct an inferential analysis. Inferential research is necessary to determine a link between political party identification and infant homicide rates.

Limitations of the Study

The limitations to this study include the small sample size, the consequent absence of inferential analyses, the fact that the archival data were collected at incongruent time points, and the fact that populations in the comparison groups had dissimilar median annual incomes. I used a small sample because infant homicide counts from WISQARS were available for only 16 states. In addition, I omitted a few states with available data from this study to achieve a population balance between the two groups. However, I was unable to match the two groups on median annual income. Lastly, the most recent rates of publicly funded contraception centers, abortion clinics, Medicaid-accepting mental health treatment centers, and Medicaid-accepting substance abuse treatment centers were from different years. The expansion of WISQARS and the availability of updated counts of the number of reproductive and mental health treatment centers would allow researchers to make more accurate comparisons between political climates.

Recommendations

Past research has indicated that infanticidal mothers tend to be young (Mendlowicz et al., 1998; Overpeck et al., 1998l; Stone et al., 2005) and unmarried

(Overpeck et al., 1998; Resnick, 1970; Stone et al., 2005), with low levels of education and income (Mendlowicz et al., 1998; Overpeck et al., 1998; Stone et al., 2005). In addition, many had substance abuse (Krischer et al., 2007) and mental health problems (Stone et al., 2005). Finally, few received adequate prenatal care during their pregnancies (Herman-Giddens et al., 2003; Overpeck et al., 1998).

In light of these findings, it is possible that some infanticidal mothers believed that they could not provide care for their child because of substance abuse or mental health problems. They may have believed that they could not afford the cost of mental health treatment, raising a child, or having an abortion. It may have been difficult to find assistance in areas where welfare funds are limited and abortion clinics are scarce. According to the results of this study, abortion clinics, Medicaid-accepting mental health treatment centers, and Medicaid-accepting substance abuse treatment centers are scarcer in Republican states than in Democratic states. Although it is impossible to know why the mothers included in research samples chose homicide instead of abortion, it appears that providing more opportunities for women to make a choice about abortion by reducing restrictions on abortion and increasing public funds would assist in reducing the rate of infanticide. It is also recommended that we provide more opportunities for individuals in low SES levels to receive mental health treatment and substance abuse treatment. This can be done by increasing public funds and increasing the number of treatment centers that accept Medicaid. However, providing extra funds may be difficult, as it is evident that an income disparity may exist between populations in Democratic states and those in Republican states.

This study highlighted the possibility of a potential relationship between social policies, the availability of reproductive and mental health services, and infant homicide. Because many variables can dictate the nature of this relationship, further research is needed. It is recommended that researchers complete a thorough evaluation by conducting inferential analyses on all 50 states. This would allow researchers to investigate the possible consequences of restrictive social policies.

Conclusion

In conclusion, current research on the association between social policies, infant homicide, and access to reproductive and mental health services is scarce. Although in this study I found results consistent with available literature, inferential research is needed to determine whether relationships truly exist between the three variables. An increase in available data would allow the expansion of empirical research on infant homicide so that mental and public health officials can create and implement prevention strategies.

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